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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,013	07/31/2003	Hugh E. McLoone	003797.00541	9522
28319	7590	06/18/2004	EXAMINER	
BANNER & WITCOFF LTD., ATTORNEYS FOR MICROSOFT 1001 G STREET, N.W. ELEVENTH STREET WASHINGTON, DC 20001-4597			CULLER, JILL E	
			ART UNIT	PAPER NUMBER
			2854	

DATE MAILED: 06/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary****Application No.**

10/631,013

**Applicant(s)**

MCLOONE, HUGH E.

**Examiner**

Jill E. Culler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 21 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-22 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 20030731.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-20, drawn to a computer keyboard configured for navigation of a graphical user interface of a host computer, classified in class 400, subclass 472.
  - II. Claims 21-22, drawn to a method of user selected control of a trackball device of a keyboard, classified in class 345, subclass 156.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the keyboard as claimed can be used without a trackball device or trackball input.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification and because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with Darrell G. Mottley on June 8, 2004 a provisional election was made without traverse to prosecute the invention of Group 1, claims 1-20. Affirmation of this election must be made by applicant in replying to this

Office action. Claims 21-22 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### ***Drawings***

2. The drawings are objected to because of the following minor informalities:

In figure 8, the reference numerals in the lower right hand corner are unreadable. It appears that they should be "232" and "235", but they should be separated, and the lead lines should clearly indicate separate elements.

Several lead lines in Figures 9 and 10 have strange curves and do not clearly indicate the elements to which they are connected.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "207" has been used to designate both a control section and an alphanumeric section in figures 11 and 12.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The

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replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The disclosure is objected to because of the following informalities:

On page 9, paragraph 35, line 6, it appears that the word "dispose" should be "disposed" instead.

On page 11, paragraph 38, line 3, it appears that the reference numeral 219, should be 223 instead, as 219 has been used elsewhere to refer to the keyboard housing and 223 is used elsewhere to refer to the movable ball.

On page 11, paragraph 40, line 8, it appears that the word "track" should be "trackball" instead.

On page 14, paragraph 48, line 10, it appears that the word "hers" should be "her" instead.

On page 16, paragraph 53, line 2, it appears that the word "to" is missing between "according" and "a preferred".

On page 18, paragraph 57, line 4, the word "of" between "illustrates" and "an" appears to be unnecessary.

On page 19, paragraph 59, line 5, it appears that the word “devices” should be “device” instead.

Appropriate correction and/or clarification is required.

### ***Claim Objections***

4. Claims 1-12, 16 and 20 are objected to because of the following informalities:

In claim 1, on line 6, it appears that “an” before “second” should be “a” instead.

In claim 1, on line 8, there is no antecedent basis for the recitation of “the multiple axes”. It appears that applicant may have intended to recite “the perpendicular axes” instead.

In claim 1, on line 10, the recitation “between an alphanumeric section” is unclear. It appears that applicant intended to claim the alphanumeric section between the two navigation sections, as in claims 13 and 20. For the sake of furthering prosecution, this interpretation has been assumed by the examiner.

In claim 6, on line 2, it appears that the word “further” is redundant and applicant intends to claim the input device is a trackball device. For the sake of furthering prosecution, this interpretation has been assumed by the examiner.

In claim 7, on line 1, it appears that the word “device” is missing after the word “input”.

In claim 16, on line 4, it appears that “state, change said horizontal” should be “state change from said horizontal” or something similar.

In claim 20, on line 19, it appears that the word "second" between "first" and "input" should not be there.

Appropriate correction and/or clarification is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 6-16 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,288, 706 to Leman in view of U.S. Patent No. 5,621,436 to Solhjell.

With respect to claim 1, Leman teaches a computer keyboard, 20, configured for navigation of a graphical user interface of a host computer, comprising: a first navigation section, 40, including a first input device, 80, see column 3, lines 26-29, configured to receive manual movement and responsive thereto configured for scrolling an image relative to an image display screen along perpendicular axes; see column 4, lines 56-59, a second navigation section, 40, including a second input device, 80, configured to receive manual movement and responsive thereto, see column 3, lines 26-29, and an alphanumeric section laterally disposed between the first navigation section and the second navigation section. See Figure 1 in particular.

Leman does not teach the second input device is configured for moving a graphical pointer relative to multiple axes.

Solhjell teaches a keyboard, 22, having a pointing device, 35, configured for moving a graphical pointer relative to multiple axes. See column 1, lines 26-31 and 38-47.

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the graphical pointer configuration of Solhjell with the second pointing device of Leman in order to be able to scroll the image and move the graphical pointer at the same time.

With respect to claims 2-4, Leman teaches the first input device, 40, includes a trackball assembly, 80, including a spherical member being rotatably configured to receive the manual movement;

Leman does not teach a scrolling sensing system that determines when said spherical member is rotated for scrolling along one of the perpendicular axes, or configured to sense a transition state of the spherical member when the member is rotated for a first directional scrolling along one of the perpendicular axes and responsive to the transition state change to a second directional scrolling along the other of the perpendicular axes.

Solhjell teaches a scrolling sensing system that determines when said spherical member is rotated for scrolling along one of the perpendicular axes, or configured to sense a transition state of the spherical member when the member is rotated for a first directional scrolling along one of the perpendicular axes and responsive to the transition



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state change to a second directional scrolling along the other of the perpendicular axes.

See column 2, lines 7-26.

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the scrolling sensing system of Solhjell with the input device of Leman in order for the input device to be able to respond appropriately to user input.

With respect to claim 6, Leman teaches the first input device and the second input device each comprises a trackball device. See column 3, lines 31-34 and Figure 1 in particular.

With respect to claim 7, Leman teaches the first input device further comprises a scroll wheel assembly, 583. See column 6, lines 65-67 and Figure 6B.

With respect to claims 8-10, Leman teaches an input device comprising a touchpad, 784, see column 7, lines 4-9 and Figure 6D, and teaches this device comprises either the first input device or the second input device, while the other input device comprises a trackball device. See column 6, lines 60-65.

With respect to claims 11-12, Leman teaches the input devices are user selectable but does not teach moving a graphical pointer relative to the perpendicular axes.

As discussed in the above rejection of claim 1, Solhjell teaches a keyboard, 22, having a pointing device, 35, configured for moving a graphical pointer relative to multiple axes. See column 1, lines 26-31 and 38-47.

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the graphical pointer configuration of Solhjell with the second

pointing device of Leman in order to be able to scroll the image and move the graphical pointer at the same time.

With respect to claim 13, Leman teaches a computer keyboard, 20, configured for navigation of a graphical user interface of a host computer, comprising: a keyboard housing, 21; a trackball device, 80, disposed with the keyboard housing having an opening, said trackball device having a movable ball, 81, within said opening and said movable ball being configured to receive manual movement and responsive thereto, see column 3, lines 26-33, configured for scrolling an image relative to an image display screen in a vertical direction and a horizontal direction, see column 4, lines 56-59; a second input device configured to receive manual movement and responsive thereto, column 3, lines 26-29; and an alphanumeric section being disposed between the trackball device and the second input device. See Figure 1 in particular.

Leman does not teach the second input device is configured for moving a graphical pointer relative to two dimensions of the image display screen.

Solhjell teaches a keyboard, 22, having a pointing device, 35, configured for moving a graphical pointer relative to two dimensions of the image display screen. See column 1, lines 26-31 and 38-47.

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the graphical pointer configuration of Solhjell with the second pointing device of Leman in order to be able to scroll the image and move the graphical pointer at the same time.

With respect to claims 14-16, Leman does not teach a scrolling sensing system that determines when said movable ball is rotated for vertical scrolling or horizontal scrolling, or configured to sense a transition state of the movable ball when the member is rotated for vertical scrolling and responsive to the transition state change to horizontal scrolling, or for horizontal scrolling and responsive to the change to vertical scrolling.

Solhjell teaches a scrolling sensing system that determines when said movable ball is rotated for vertical scrolling or horizontal scrolling, or configured to sense a transition state of the movable ball when the member is rotated for vertical scrolling and responsive to the transition state change to horizontal scrolling, or for horizontal scrolling and responsive to the change to vertical scrolling. See column 2, lines 7-26.

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the scrolling sensing system of Solhjell with the input device of Leman in order for the input device to be able to respond appropriately to user input.

With respect to claim 19, Leman teaches an input device comprising a touchpad, 784, see column 7, lines 4-9 and Figure 6D, and teaches this device comprises either the first input device or the second input device, while the other input device comprises a trackball device. See column 6, lines 60-65.

With respect to claim 20, Leman teaches all that is claimed, as in the above rejection of claim 13, and that the keyboard is wireless. See column 4, lines 19-22 and Figure 2 in particular.

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7. Claims 5 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leman in view of Solhjell as applied to claims 1-4, 6-16 and 19-20 above, and further in view of U.S. Patent No. 4,720,703 to Schnarel Jr. et al.

Leman and Solhjell teach all that is claimed, as in the above rejection of claims 1-4, 6-16 and 19-20 except for a scrolling sensing system that determines when the spherical member is rotated for directional scrolling along one of the perpendicular axes to a threshold level after a transition state of the directional scrolling so as to maintain said scrolling.

Schnarel, Jr. et al. teaches a scrolling sensing system that determines when an input device, 40, is manipulated for scrolling along a perpendicular axis to a threshold level after a transition state of the directional scrolling so as to maintain said scrolling. See column 4, lines 19-28.

It would have been obvious to one having ordinary skill in the art at the time of the invention to further modify the invention of Leman and Solhjell to have the additional scrolling sensing configuration of Schnarel Jr. et al., to be able to explore areas on the screen outside the original image area.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 3,541,521 to Koster, U.S. Patent No. 4,404,865 to Kim, U.S. Patent No. 5,374,942 to Gilligan et al., U.S. Patent No. 5,781,172 to Engel et al., U.S. Patent No. 5,874,939 to Galvin and U.S. Patent No. 6,580,421 to Leman

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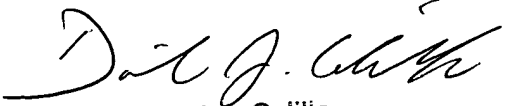
each teach a computer interface device having obvious similarities to the claimed subject matter.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill E. Culler whose telephone number is (571) 272-2159. The examiner can normally be reached on M-Th 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jec

  
Daniel J. Colilla  
Primary Examiner  
Art Unit 2854